

**REMARKS**

This communication is a full and timely response to the non-final Office Action dated October 2, 2008. Claims 1-30 remain pending. By this communication, claims 5, 7-9, 11-14, 16-18, 25-27, 29, and 30 are amended.

In numbered paragraph 2 on page 2 of the Office Action, claims 5, 7-9, 11-18, 20, 25, 26, 29, and 30 were objected to for alleged informalities. Applicants respectfully traverse this objection, however, in an effort to expedite prosecution these claims are amended for clarity. Withdrawal of this objection, therefore, is respectfully requested.

Applicants appreciate the Examiner's acknowledgement that claims 3, 5, and 7-30 recite allowable subject matter.

In numbered paragraph 3 of the Office Action, claims 1, 2, 4, and 6 are rejected under 35 U.S.C. §103(a) for alleged unpatentability over *Kirchhöfer* (USPN 4,925,647). Applicants respectfully traverse this rejection.

As discussed in Applicants' previous response, an exemplary standing-wave atomizer as illustrated in Fig. 2 includes a sonotrode 12 and reflector 14. The sonotrode 12 and the reflector 14 are separated by an intermediate space 16 in which an ultrasonic wave is formed. A tubular tank discharge nozzle 18 protrudes into the space 16. The discharge nozzle 18 emits sheets of paint that are acted upon by the ultrasonic standing-wave field located in the space 16 to atomize the paint. Air distributors 22 can be arranged on both sides of the paint nozzle 18 so that air fed from the air distributors 22 forms an air curtain 26, that shields an end face of the sonotrode 12 and the reflector 14 from a paint mist and at the same time forms a paint spray cone 28 that faces the direction of the air flow.

Figure 1 broadly encompasses the foregoing features and recites the following:

An ultrasonic standing-wave atomizer arrangement for producing a paint spray mist for painting a workpiece, with a sonotrode, with a component arranged lying opposite the sonotrode, a standing ultrasonic field being formed in the intermediate space between the sonotrode and the component in the case of operation, and with at least one paint feeding device, which introduces the paint into the intermediate space for the atomizing process at at least one paint discharge point, wherein there is an air supply device, which interacts with at least one air distribution device, wherein the air distribution device has a number of clearances, which serve for blowing out air, wherein the clearances are arranged in such a way that between the at least one paint discharge point and the sonotrode and also between the at least one paint discharge point and the component there is formed at least one region with a blocking air flow, by which air flow wetting of the sonotrode or of the component with paint is substantially avoided.

Contrary to the Examiner's assertion, *Kirchhöfer* fails to disclose or suggest the combination of features recited in Applicants' claims.

*Kirchhöfer* discloses a process for producing metal oxides or metal mixed oxides that uses a vessel-like reaction device for the production of small gel spherules. A water-soluble salt-like compound of a polyvalent metal - and no paint- is atomized and the droplets react with ammonia during their flight phase through the vessel. The small gel spherules are collected at the bottom of the vessel.

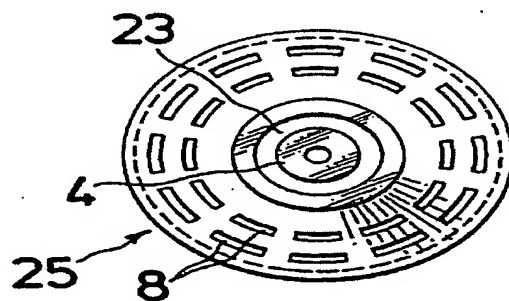
Based on the disclosure of *Kirchhöfer* Applicants note the following observations:

1. *Kirchhöfer* is not related to a process or device that includes a paint feeding device.
2. *Kirchhöfer* does not disclose that air is fed into the vessel but rather discloses that an inert gas (e.g. Helium or Argon) is fed into the vessel-like reaction device. The purpose of feeding inert gas is to reduce the

share of oxygen to prevent any chemical reaction of the atomized droplets before coming into contact with the ammonia.

3. *Kirchhöfer* fails to disclose the use of a blocking airflow to avoid the wetting of a sonotrode but rather discloses that a laminar flow of an inert gas cloud propels the droplets into the reaction zone. The blocking airflow is at a speed that is significantly higher than the laminar flow of the inert gas cloud.

Based on the foregoing, there appears to be no disclosure, suggestion, or motivation to combine the concepts and/or structure described by *Kirchhöfer* with a painting device. Rather, based on the guidance in *Kirchhöfer*, one of ordinary skill would have seemingly constructed a blowing device such that the paint nozzle is surrounded by blow holes of the blowing device. The blowing device producing a gas cloud, which propels atomized droplets into a reaction zone filled with ammonia. As shown in Fig. 3, *Kirchhöfer* discloses that the nozzle 4 is surrounded by blow

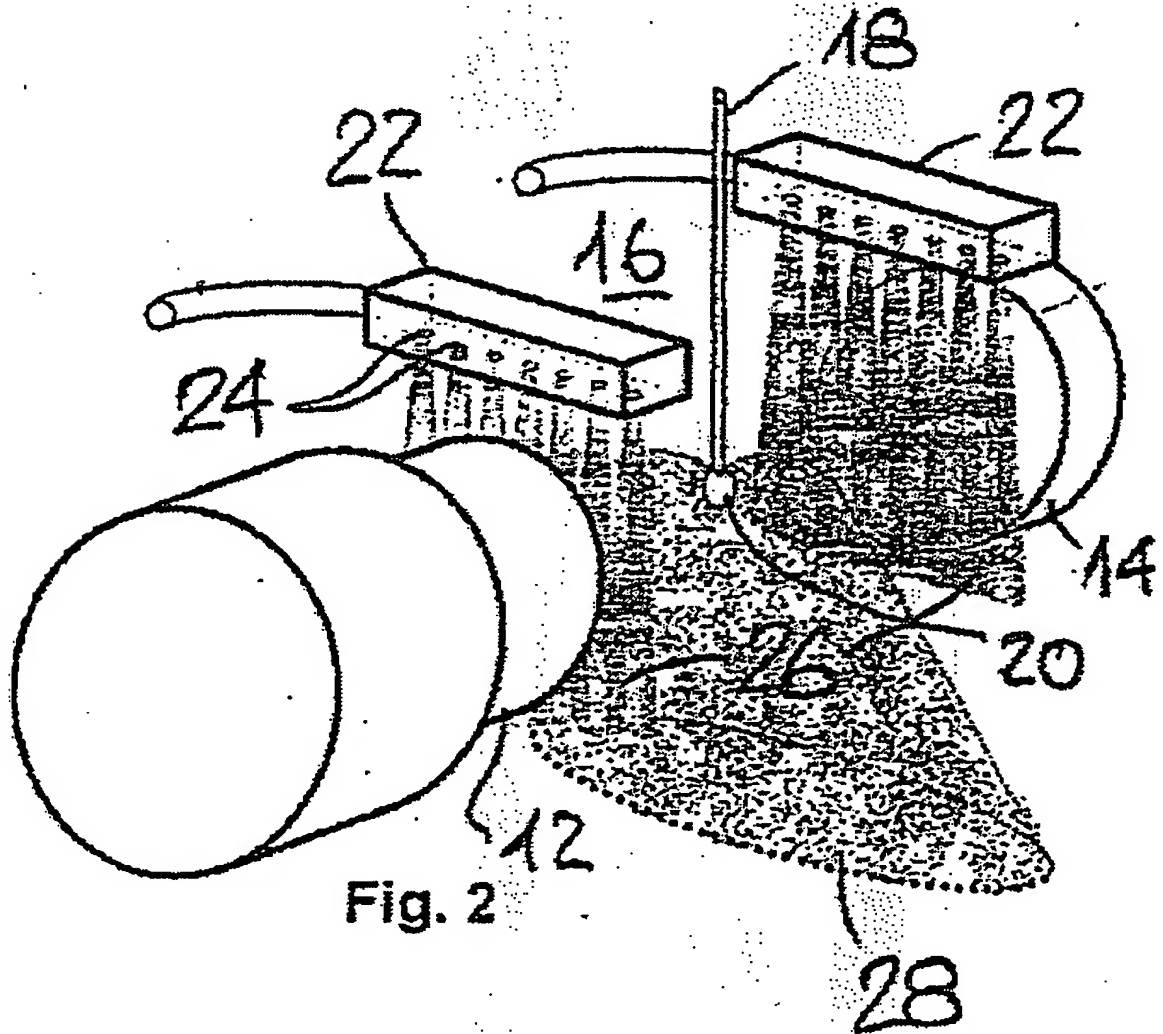


**FIG. 3**

holes 8 for the passage of an inert gas into a reaction chamber.

One of ordinary skill would understand that this arrangement is not suitable to substantially avoid wetting of an electrode, because to achieve the results of Applicants claimed combination the active part (sonotrode 12) of the electrode and

not the paint nozzle has to be surrounded by the blow holes for to protect against wetting.



Neither *Kirchhöfer* nor the Examiner has provided any evidence that the configuration described in the former can prevent wetting of an electrode as provided by the combination of features recited in Applicants' claims.

In summary, Applicants respectfully submit that *Kirchhöfer* when applied individually or collectively with the knowledge of an ordinarily skilled artisan, as alleged by the Examiner, fails to disclose or suggest every feature and/or the

combination of features recited in Applicants' claims. For at least these reasons, a *prima facie* case of obviousness has not been established.

To establish *prima facie* obviousness of a claimed invention, all of the claim limitations must be taught or suggested by the prior art. In *re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). Moreover, obviousness "cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination." ACS Hosp. Sys. V. Montefiore Hosp., 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). For at least the above reasons, Applicant respectfully requests that the rejection of claim 4 under 35 U.S.C. §103 be withdrawn, and this claim be allowed. For rejections under 35 U.S.C. § 103(a) based upon a combination of prior art elements, in KSR Int'l v. Teleflex Inc., 127 S.Ct. 1727, 1741, 82 USPQ2d 1385, 1396 (2007), the Supreme Court stated that "a patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art." "Rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some **articulated reasoning with some rational underpinning** to support the legal conclusion of obviousness." In re Kahn, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006) (emphasis added). For at least the foregoing reasons, withdrawal of this rejection is respectfully requested.

**Conclusion**


Based on the foregoing amendments and remarks, Applicants respectfully submit that claims 1-30 are allowable and this application is in condition for allowance. Accordingly, favorable consideration and examination of this application is respectfully requested. In the event any unresolved issues remain, the Examiner is encouraged contact Applicants' representative identified below.

Respectfully submitted,

BUCHANAN INGERSOLL & ROONEY PC

Date: January 2, 2009

By:

A handwritten signature in black ink, appearing to read "Shawn B. Cage", is written over a horizontal line.

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